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ABSTRACT

Employer-based career education (EBCE) aims to familiarize students with a number of jobs and prepare them for those occupations by exposing them, first-hand, to various careers. Specifically, its goals are: 1) to reduce gratification lag by allowing earlier participation in occupations; 2) to aid students toward a responsible occupational choice by exposing them to several job experiences; 3) to provide knowledge, attitudes, and generalized skills which are necessary for a variety of entry-level jobs, and 4) to provide a total educational system, preparing students either for immediate employment or further education. How such a program would function and what success it would have depends on what the future in this country is like. Here, six "scenarios" of the years up to 2000 are outlined, tracing possible trends in personal values and the nature of the government. The way each scenario would affect EBCE's goals and assumptions is then discussed. (JK)

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A FUTURES PERSPECTIVE ON EMPLOYER-BASED CAREER EDUCATION, 1971-2000

Research Note
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A Futures Perspective on Employer-Based Career Education Policies

Introduction

This analysis is offered as a contribution to the more inclusive study being conducted by the Far West Laboratory for Educational R & D at Berkeley. It takes its departure from two bodies of research results: a) the preliminary report of the Far West Lab*; and b) investigations of Contingent U. S. Patterns (CUSP)**; projected for the period 1970-2000 under the Educational Policy Research Center of Stanford Research Institute. As such, this paper is viewed as being a part of the Phase III work outlined in the Far West Lab's preliminary report --one of several concept papers addressed primarily to readers in the U. S. Office of Education, business consortia that might be involved in upcoming experiments in employer-based career education (EBCE), and others professionally interested in education (broadly defined) in the USA.

More particularly, this study addresses the environment side of the "systems environment" nominated by the Far West Lab as its target, beginning with the readily supported concept that such fundamental tasks of systems analysis as feasibility assessment and the judging of worth (or relevance) must be performed in relation to environments that might plausibly exist at the time of fruition of the system in question. Actual widespread use of EBCE on a scale consonant with the expressed

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* Initial Systems Analysis of Employer-Based Career Education", Sept. 1971

** See especially, SRI RM-10, JRA RM 69-3, JRA WP 71-8.

objective of using it "....as an alternative to formal education as it now exists" (Prelim. report: p 1-3)can hardly be expected to occur in fewer than five years, and the system would have its impact and prove its worth through the careers of students three or more decades thereafter. It therefore seems evident that the environment(s) to be considered in this case never could be the present one but rather should be ones that might exist over the time frame 1975-2000. Of course, the word "environment" is not restricted to the physical setting. Rather it refers to the whole socio-physical setting made up of all those things and people and behavior modes outside the effective influence of EBCE planners.

There are two separable (although not finally discrete) aspects of the analysis of future environments' implications for EBCE that might be treated in a preliminary effort such as this one. Both will be undertaken, although for reasons adduced in connection with each it will not be possible to begin to exhaust either of those two topics at this stage of analysis. The two are: a) the analysis of prospective impacts of EBCE upon society via the school systems of the future (and the benefits, plus or minus, reflected by such impacts); and b) the impacts of future settings upon an EBCE system (and attendant inferences as to the feasibility and relevance of that system). Both of course are significant. The latter is to at least some extent logically precedent to the former; since impacts depend on whether

the system has proved feasible and is, therefore, operative. In any case, the question of how the 1975-2000 future may bear upon the feasibility and relevance of an employer-based career education system of a sort such as to provide an alternative to formal education as it exists in 1971 is taken up in the pages immediately following. The inverse questions of the prospective impacts (and related benefits) of such an EBCE system are considered separately in a companion paper.

An Employer-Based Career Education System

The degree of definition of alternative EBCE systems-- aproaches, funding levels, percentage of students engaged, etc. -- has not yet reached a stage such as to permit the sort of cross comparisons to which the alternative futures approach is most nicely suited. What can be done in a concepts paper such as this one is to consider the general characteristics that an EBCE system might be expected to have when finally introduced, starting from descriptions that now exist and granting the stability of goals already laid out, and then to investigate the prognosis for such a system within each of the alternative future contexts spelled out in a later section of this paper.

While the central research effort on this subject still is being addressed toward evolving "an initial image of EBCE"*, it is necessary that we to some extent distill out the image that we have been able to form, since some rather definite system must be considered, if only as an example, within each of the future contexts offered. The following is intended not as a definition that others should use or respect but

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* " Initial Systems Analysis . . .", op cit. p 1-3 Vol I

as an indication to the reader of the working hypotheses adopted here. If this description is seriously different from ones accepted elsewhere, it of course will be possible to amend any consequent inferences as the system definition progresses and, especially, as descriptions of plausible alternative systems emerge.

- The EBCE of, say, 1985 will have to be relatively large and inclusive if its goals are to be achieved on a scale such as to be societally significant and if it is to offer "... an alternative to formal education**" as of the early 1970s. In any given area, at least, the opportunity for parents and pupils to nominate this "alternative" would have to be sufficiently open so that participation would not be limited just to a few students. We visualize a condition in which 25% or more of high school age students are involved in EBCE as an alternative to currently conventional high schools.

- EBCE shares with other kinds of Career Education systems the characteristic that it emphasizes the work experience and the work environment as an entre both to general kinds of education and to the learning of selected sets of skills and attitudes to be used in gainful (or at least prideful) accomplishment in later years.

- EBCE is distinguished from other Career Education systems in that it places exceptional emphasis upon the plant, personnel, and on-going productive activities of employers as teaching/

** Ibid

learning resources. Employers will be asked (required?) to accept a designated number of students for at least part-time on-the-job training on currently productive equipment and by currently productive, working people. The wastage of material and equipment and time under such a pattern of activity would be substantial within many industries, as would the risks to untrained and immature students (as, for instance, in "high steel" construction), so the costs to industry and the public presumably would be born out of the kinds of funds now addresssed to schooling. Students would be shifted rather frequently from one work/learning location to another, presumably, since EBCE is to engender in each student familiarity with several possible kinds of productive involvement in society. It seems generally agreed that to allow or to stimulate very early specialization would be stultifying, in view of the fact that skills are so rapidly forced into obsolescence in this era by technical change. A person trained along just one speciality is too vulnerable to such obsolescence.

• Non-work education also is to be achieved, and any working version of EBCE may be assumed to balance its in-the-plant kinds of instruction with others, more characteristic of present high school activities. Logistic considerations will impell the system toward provision of such education at or near the site of the work/experience activities, and it may be most economical to have the teachers move while the students remain at the plant or other installation where they may be assigned. Also, it is improbable that U. S. education ever will reach the point where money and teaching skills are really plentiful, so an emphasis on one aspect of education must imply some corresponding withdrawal of effort and support from others.

In this connection, the EBCE emphasis upon work/learning involvement ordinarily will imply reduced attention to or expenditure upon instruction in fields, such as history, that are only peripherally related to daily accomplishments; the extent to which such non-career training may be deemphasized will vary considerably from one alternative future to another. The foregoing characteristics indicate the concept of EBCE from which this particular analysis will proceed. With them as a departure point, an effort will be made to inspect goals and assumptions for EBCE to see how each appears to stand up in each alternative future -- to qualitatively assess the feasibility and worth of each goal and the probable validity of each assumption within the environment specified over time along each CUSP scenario.

The fundamental goals* of EBCE are considered briefly below, after which assumptions underlying the EBCE concept** are quoted.

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* Ibid. p 2. p 2-37
** Ibid. p 2-38

Goals

Goal 1: Reduce gratification lag, by earlier participation in society's occupational sector.

Some considerations to be held in mind when considering this goal within each CUSP scenario are these:

- If society is occupied doing that which is not considered by youth to be interesting or moral, students are unlikely to consider this goal to be valid, at least within those patterns in which the penalties for non-participation in the productive system are mild. Even if the penalties are severe, disapproving students probably would prefer to delay rather than hasten their participation.

- Even if most students do approve of the occupational sector, their experience within an EBCE system may not be gratifying, especially if rates of change require such frequent shifts of attachment (to achieve needed breadth, the opposite of specialization) that few students gain a sense of fluency in one activity before being moved to another.

Goal 2: Aid students toward responsible occupational choice, through a multiplicity of actual job experience.

- This goal is most relevant in futures where most entrants into the job market have a multiplicity of choices, relatively unimpeded by institutional restraints or by restraints on social or physical mobility. However too diversified a field of choice might impede achievement of this goal. Optimum conditions may exist in futures of intermediate variability, where the EBCE system may

offer a fair sample of accessible occupations to each student while still letting him linger at each position long enough to gain an "actual" job experience.

Goal 3: Provide knowledge, attitudes, and generalized skills necessary for a variety of entry-level jobs.

- This goal tends to compete with the previous one, since the items to be "provided" thrive on deep, continuous, engaged work on a modest number of production alternatives and on those fundamentals (such as science, communication skills, and comprehension of cultural sublties) common to many jobs.

Goal 4: Provide a total educational system, preparing students either for immediate employment or further education.

- If EBCE is to constitute a genuine alternative to the present system of formal education it of course must offer a total education, but there is room for differences of emphasis. It seems probable that the EBCE shift of attention toward exposure to work-a-day values and skills would be matched after decades of practice, by instructional and institutional pressures toward early employment and job-oriented higher education. There are future prospects in which such emphasis upon productive activity would seem highly advantageous. There are others, however, in which the glut of products and of aspirant workers would be exacerbated.
- Any major value shift away from consumption and material production suggests corresponding shifts away from the work ethic. Under such conditions, an EBCE system's

emphases would be less relevant than those to be expected from systems other than career education in general and EBCE in particular.

Assumptions Underlying the EBCE Conception

" USOE's proposal of Employer-Based Career Education as an alternative to existing secondary schooling appears to be based on the following critical assumptions. Each of these assumptions has been or will be examined in the course of this feasibility study (in this and subsequent reports).

1. The existing public education system fails to adequately prepare a significant number of students for career choice and attainment.
2. Non-motivated and underachieving students will respond to an educational system which is based in the world of work rather than in the classroom.
3. Direct work experience will provide more effective learning than vicarious and simulated experience.
4. The employing sector will be interested in controlling and operating an alternative school system. (assumes economic feasibility)
5. A reasonable cost/profit structure for employers to operate this system can be developed.
6. It is legally feasible for employers to control a program of secondary education.
7. Sufficient control will remain within the public jurisdiction so that employers will not be able to exploit the program or the students for their own vested interests.

8. Employers will be better able than the present system to adjust instructional programs to meet the increasing rate of change in career requirements.
9. Employers will be able to obtain the cooperation and assistance of public education and other agencies necessary to suppport the general and liberal education requirements of career education.
10. Employers will organize themselves into local consortia which will control and operate the educational system."
11. Employers will be able to obtain the cooperation and assistance of organized labor necessary to conduct such a program.*

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* This assumption was added in the analysis for purposes of completeness of coverage.

The Alternative Futures Approach

The assessment of plans and prospective systems in the future when they may be called upon to function, rather than in the present, is an evident need within responsible systems analysis. Unfortunately, it is simply impossible to predict the future in anything like the detail or for the number of years that are called for in many kinds of evaluation, including that of EBCE, and a real dilemma results. Several means have been employed seeking to elude this dilemma. Most frequently, one fears, some single future condition is used as a context for evaluation, the analysts simply glossing over the fact that several other such patterns might have been selected with comparable justification. Or, analysts may present fans of uncertainty for each of a large number of variables relevant to the problem and time-frame to be considered, and then tell the decision maker whom they serve that the future lies somewhere in the haze of uncertainty thus exposed.

We submit that the first is immoral and the second insufficient.

Analysis and research at most can seek to enhance the quality of the insights needed to engender decision; they never should aspire to derive such decisions. Logic is too thin a discipline (and math far thinner) to actually produce decisions even on such relatively simple topics as home life, and it is totally incommensurate with really complex policy evaluations. For these reasons, provision of the kinds of component-variable future projections from which decision might, conceivably, be derived misses the point. Decision will not be derived in relation to future patterns of events any more than in relation to present ones, because it cannot be.

The task of the futures researcher therefore is to try to provide a picture of the future that can serve a decision maker as his picture of the present does, as a seed-bed for his own, interior-based, gestalt, supra-rational insights. His product cannot (and still serve than prime need) be a fuzz of dissociated alternatives; it must be, as the present is, an IT -- whole. The present is ill perceived by any one person, and its parts fit together uneasily in many respects, but there is only one of it. Correspondingly, a projected future to be used as a spring-board for insight should be at least holistic, its parts somehow plausibly coexistent and its own unique past trailing plausibly behind it. These are tough lines, but it is our considered professional opinion that no lesser light can

yield this particular, prerequisite to valid long-term decision and long-term policy analysis.

This sharpens the basic dilemma, however. If it only were requisite that one seek to predict the most likely combination of a very few, technically specified variables, that might just barely be possible. If the future to be considered is to be composed of a full roster of social and cultural nuances,as well,and if the "feel" of the resulting whole is the primary thing to be sought, then clearly the prediction of the most likely such pattern is beyond the state of the analytic arts. The development of a set of comparably plausible, alternative patterns is by no means out of reach. Indeed, a moment's reflection will indicate that such a set should be considered even if (as is not the case) the "favorite" future could be reliably designated, since a decision maker should have the chance to sense the impacts of uncertainty in any case, and since the odds in favor of such a "favorite" surely would be much less than 50-50*.

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* One rarely sees odds better than 2:1 even within the relatively simple (as contrasted with broader futures work) universe of choice surrounding a horse race. That is to say, it rarely is to be anticipated that even the favorite will win oftener than a third of the time. To bet on him against the field would be almost as foolish as to plan as though only one future might emerge.

The futures work at EPRC and by its sub-contractor in this subject therefore has focussed on the projection of a planning cone* of several future paths of development, each plausible enough to merit the attention of a prudent planner and each the kind of whole-body called for above. These projections have been named Contingent U. S. Patterns (CUSPs).

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* See particularly SRI RM-10

Figure 1 displays a "tree" of alternative lines of future evolution for the USA--the set of six CUSP scenarios to be used here as "back boards" against which to "bounce" goals and assumptions identified with EBCE. These are two different routes toward appreciating their characteristics. One is a set of impressionistic reviews of the last three decades of the 20th century as each of the six lines might be described by some observer who had been embedded in each. The other, much more cryptic but by far the more comprehensive, is the set of sector/factor transition charts shown at the beginning of each of the scenarios that detail sequenced changes of state within each of twelve dimensions of description. These schematically designated scenarios offer, to the reader who wishes to familiarize himself with the factor definitions, an elaborated, multi-dimensional description of the changes assumed along each of the scenario lines.*

Each of these six selected, illustrative conceptions of the U. S. future has been developed so as to be internally and sequentially consistent. They are thought at this time to be comparably plausible, in the sense that one is as likely as another to be the setting within which a presently established policy line might see fruition.

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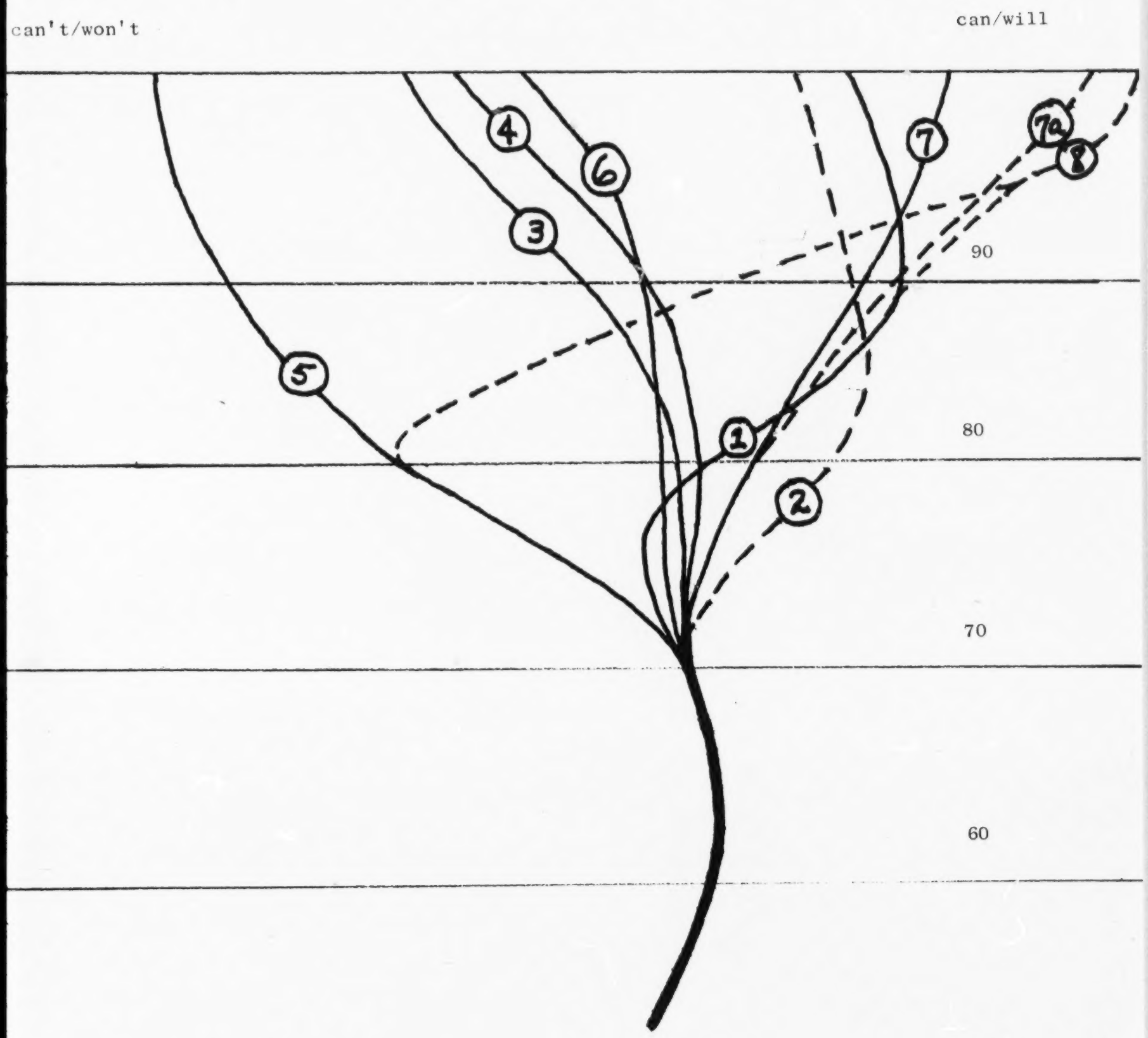
* These materials are being prepared for publication by the Educational Policy Research Center at Stanford Research Institute, to be available by February 1972.

Figure 1: A Tree of Contingent U.S. Patterns (CUSP's)
Along a Faustian Demension



Each is described, in a paragraph or two, at the point in the following analysis at which EBCE goals and assumptions are discussed for that future.

Matrix Cases

For each CUSP scenario in turn, we visualize the following 1985 condition.

An EBCE system was designed and selected during the early 1970s, instituted on a trial basis in several cities and proved effective by 1976, and accepted as a potential alternative to pre-existing systems of formal education (including vocational education and the more formal kinds of industrial on-site training) by 1980. By 1985, EBCE is nationally recognized and has been accepted as an important mode of secondary education in many of the 51 states.

The goals of EBCE are to be viewed within the scenario's context for relevance and practicality; the validity of its assumptions are to be reviewed, correspondingly. In each case, the reviewer in 1985 is vouchsafed some powers of prophesy so that he may see the outlines of later events along each scenario line.

The listed assumptions underlying the EBCE concept are scored in matrix form for each of the six contextual settings being considered here, as shown in Figure 2. A "Yes" means that the assumption in question seems likely to prove sound along the indicated CUSP scenario at about 1985, and a "No" is to be interpreted accordingly; a question mark can mean several kinds of uncertainty such as "It might be either way" or "The assumed situation makes this assumption

EBCE Assumptions*	CUSP Scenarios ≃ 1985					
	1	3	4	5	6	7
1. Existing Pub. Ed. fails to prepare students for Career choice & Attainment.	?	NO	YES	YES	YES	?
2. Non-motivated & under achieving students will respond to Ed. system in "work world" rather than classroom.	YES	?	YES	?	YES	YES
3. Direct work experience provides more effective learning than vicarious experience.	YES	YES	YES	YES	YES	YES
4. The employing sector will be interested in control & operation of an alternative Ed. system.	?	NO	YES	NO	YES	?
5. A reasonable cost/profit structure for employers can be developed.	?	NO	YES	NO	?	YES
6. Legally feasible to have employer control the program.	YES	YES	YES	YES	YES	YES
7. Sufficient public controls to inhibit exploitation by employer.	YES	YES	NO	NO	YES	YES
8. Employers better able to adjust instructional programs to meet the increasing rate of change in career requirements.	YES	YES	YES	YES	YES	YES
9. Employers will get cooperation of public education in support of Gen. & Lib. Educational require ments.	YES	NO	YES	?	?	YES
10. Employers will organize into local consortia to control and organize Ed. system.	?	?	YES	?	?	?
11.** Employers will obtain cooperation and assistance of organized labor for program.	YES	NO	YES	?	?	YES

*See p.10 for full list of EBCE Critical Assumptions.

**It was deemed advisable to add #11 as a complement to #9.

Figure 2: Matrix of EBCE Assumptions vs CUSP Scenarios

somewhat irrelevant". Figure 3 offers similar judgments concerning the four fundamental goals of EBCE. The subsequent discussion is organized along vertical "cuts"at the problem, with assumptions and then goals discussed for one future setting after another.

Again, the preliminary character of this paper, leading as it does the process of full definition of the EBCE system or systems to be analysed, requires that application of the alternative futures approach be more illustrative than substantive at this stage. The following considerations of the goals and assumptions formally listed for EBCE within each of the selected CUSP scenarios therefore should be regarded as examples of what might be done more definitively in closer interaction with those tasked to define and assess an experimental or an actually operational EBCE system.

Fundamental Goals of EBCE	CUSP Scenarios ≃ 1985					
	1	3	4	5	6	7
1. To reduce the "Gratification Lag" imposed by requiring students to complete school before participating fully in society's occupational sectors, by having education take place in the context of "real WORLD " occupational endeavors	YES	NO	YES	NO	?	YES
2. To provide each student with the capability of making a rational, responsible occupational choice based on a multiplicity of actual job experiences and valid information about career requirements and characteristics.	?	NO	?	?	?	?
3. To provide each student with the knowledge, attitudes, and generalizable skills necessary for a variety of entry-level jobs.	YES	YES	YES	?	?	YES
4. The overall goal of EBCE is to provide a total educational system which adequately prepares students for either immediate employment or further education.	YES	?	YES	NO	?	YES

Figure 3: Matrix Goals of EBCE vs CUSP Scenarios

CUSP Scenario 1: Transition to a Slow-Growth Pattern, New Society

Scenario Brief

This line of evolution assumes a sweeping shift of some of the most fundamental values and beliefs of Americans-- deep modifications in the "appreciative system"* governing Americans' perceptions of reality and interpretations of events. That shift, heralded by the "youth culture" ferment but only partially defined by it, leads through a period of stringent social discipline toward an evolving order in which self discipline and a reverence toward ecological and cultural continuities combine with a rejection of the previous consumption-based ethic. Many freedoms currently prized are limited in the interest of stable transition, but such restraints start to be released during the last decade of the century, as self restraint combines with neighborly critique of anti-social behavior in ways such as to make governmental control less needful. This is a relatively prosperous future, moving toward a minimum consumption, satisfactory, low-growth pattern by 2000 A.D.

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* Sir Jeffery Vickers, Value Systems and Social Process

EBCE Assumptions in this Setting

As seen in Figure 2 more than half of the entries in the first column (CUSP Scenario #1) are scored "yes". That suggests that along this line of evolution by about 1985 more than half of the critical assumptions about EBCE prove valid. The conditions in the country reflect a period of austerity and reduced economic growth. Manufacturing employment is down, but there are extensive increases in public works programs and in the construction industry. Despite these production gains there has been only a moderate increase in the GNP over population growth during the previous five years (following a period of economic decline between 1975 and 1980). The problems of energy scarcity and pollution have combined to further limit industrial growth. Private consumption declines as a value and is increasingly replaced with the idea of restrained consumption for the social good. Thus emerges a new commitment to the national well being, especially among the young who seek more meaningful life styles and work experiences.

In this future it seems reasonable to score assumptions number 2,3,6,7,8 and 9 as "yes".

The remaining assumptions, namely number 1,4,5, and 10 are less likely to fit easily in a context such as that depicted in Scenario 1.

In the context of conditions outlined in Scenario 1 there is some doubt whether assumption 1 holds. The public education system could easily have adopted a work-study program in cooperation with what is projected to be a

expanded "National Service" program. Such a program might conceivably complement or supercede an educational system based on the Employer Based Career Education Model. In addition, there appears to be a measure of ambiguity as to whether the EBCE approach would satisfactorily resolve the conflict between the employers' potential desires to focus educational experience upon specific and possibly specialized job related skills and the students' needs for a general, broad educational experience which would permit wider latitude of choice of career fields in the future.

Assumption 2 seems marginally valid in scenario 1. In this pattern the work ethic (work for its own sake, for the honor of being productive) is replaced by a new ethic which values productive endeavor which is personally and socially rewarding. Thus the possibility exists, is even enhanced, for non-motivated students to find personal satisfaction and appropriate motivation in an employer based educational environment. On the other hand, it is entirely possible that the public educational system in this line could evolve in the direction of work-study models. Under such conditions classroom time and time spent in a work experience environment would be divided about equally and the same stimulus to the non-motivated student would be available. A work-study condition of this sort would be facilitated by the existence of the National Service Corps postulated for Scenario 1, a combination of a domestic Peace Corps, and national defense force which would offer job training and public service work experience alternating

with public secondary education.

Assumption four, namely that the employing sector will be interested in controlling and operating an alternative school system, may be questioned in this condition. If it is assumed that operating such a system is economical for the employing sector (a minimum precondition in any of the futures); there remains the question as to whether there is from the employing sector's point of view a compelling neeed for EBCE.

By 1985 the new National Service program depicted in Scenario 1 will have developed, in conjunction with the public education system, a work-study program which might well satisfy many of the aspirations and goals of EBCE. If this were the case it is possible that in the face of a complementary (although not necessarily competitive) work experience program the employing sector might be less inclined to control and operate an alternative school system.

The fifth assumption, that a reasonable cost/profit structure for employers can be developed is again uncertain. If an alternative or a complementary work-study program evolves in this future line, it is not clear that EBCE will have a competitive edge in the attempt to gain federal or state subsidy funds.

The last assumption (no. 10) is also questionable in view of alternative systems. It seems less likely that there will be much opportunity for local consortia of employers to control and organize educational systems if the existing system (the public supported work-study educational program) is widely accepted.

EBCE Goals in This Setting

Goal 1, the reduction of the "gratification lag" by permitting early entry into a work experience for those who desire it is likely to remain valid during the entire thirty year span of this scenario. Goal 2 would be especially pertinent as the shift toward a better matching of individuals' aspirations and desires with various career opportunities became more extensive. Goal 3 assumes a depth of training which may run somewhat counter to Goal 2 in that it may tend to preclude a wide variety of job experiences. There is also the possibility of promoting specialization for entry-level jobs at the cost of generalizing skills. Goal 4 seems commensurate with this line of evolution, although EBCE may have to compete with an expanded work-study program in the public school system.

CUSP Scenario 3* Imprudent Optimism

Scenario Brief

This alternative, which unfortunately seems all too plausible, is one in which bureaucratic inertias combine with excessive allocation of resources to welfare to drive society gradually into ineptitude. An early feeling of relative confidence leaks away and "lives of quiet desperation" become progressively more common. Welfare commitments were equally assigned to please most people, however, and the bureaus operating each program are well entrenched. Escape from the devolving spiral was just difficult enough and its advantages sufficiently unclear so that year passed unsatisfactory year without the major break that would have been needed to establish a different line. If there were a basic shift of values at work, that trend was prevented from reaching a fruitful new state by improvidence and short-sighted pettiness.

* Scenario 2 has been outlined and is shown as a dotted line in Figure 1. Its combination of renewed cold war out of American economic and military strength seemed to call for too many implausible changes during the 1970s for it to be kept in the planning cone at this point.

EBCE Assumptions in This Setting

Conditions assumed to hold within CUSP Scenario 3 probably would preclude even the initial establishment of an EBCE genuinely competitive with the formal school system; if one were established during the early and more prosperous years of this line of future evolution, it seems likely that it would not survive into the later years of this century in a form such as to see its major goals realized.

Assumptions 1,4,5,9 and 11 seem to be the more crucial of the ones listed, and Figure 2 shows all five of them scored "No." This seemed appropriate to those doing the scoring for a variety of reasons, but two were predominant. First, this would be a future in which bureaucratic self preservation were a dominant force (and there are reasons why an EBCE might be seen as a threat by both the educational and labor bureaucracies). Second, after about 1985, at least, this scenario visualizes progressively more strained governmental budgets, and expensive experiments (of which a truly well functioning EBCE probably would be one) would tend to be never started or soon stopped.

In terms of the particular assumptions referenced above, there is considerable chance that public education would serve as well or better than an EBCE system in helping students fit themselves into bureaucratic slots, and there is reason to doubt that available funds would cover the special costs (start-up costs, machine breakage, loss of personnel time, material wastage, etc.) of an EBCE designed to offer actual work experience; the first and fifth assumptions seem likely therefore, to be invalid. The validity of Assumptions 9 and 11 also are dubious in view of the bureaucratic pressures

mentioned earlier, and while the dwindling private sector might indeed be hurting for personnel who could and would perform, employers there might be expected to prefer to train their own apprentices rather than to come under the control of the educational establishment (Assumption 4). Indeed, the kind of EBCE that might survive the fund reductions and external pressures visualized here would seem doomed in its students' eyes. It would be dependent upon surplus equipment and expendable supplies, and employee-instructors would be drawn from among the less productive members of each staff; skill certification within a completely organized situation in which jobs would be scarce almost certainly would be reserved to labor unions and denied to the schools; and it would be surprising if nepotism were not at least as important as achievement in job placement. The pattern is that of "Mickey Mouse", bogus activity, so Assumption 2 and 3 might prove invalid as well.

EBCE Goals in This Setting

The same constraints that would tend to invalidate so many of the assumptions underlying an EBCE concept to be implemented within the context of CUSP Scenario 3, also make achievement of its goals and/or the relevancy of those goals improbable. Far from reducing "gratification lag", for instance, the busy-work pattern that would seem likely to be imposed upon the kind of EBCE that could survive in this future would seem sure to introduce frustrations of its own, so achievement of Goal 1 would be dubious.

The second goal, of preparing students for rational career choice through experience within many actual job situations,

might prove somewhat irrelevant along this future line in its later years as preferment becomes more important than competency, and even in the years near 1985 (when the passage of certifying tests--a Mandarin kind of system--might be the entre to desirable employment), the actuality of student work experiences within the EBCE system would be dubious. The third goal, however, would seem likely to be realized, and at least in the pre-1985 years the accessibility of jobs might make preparation for "a variety of entry-level jobs" more of an advantage than a frustration.

The fourth goal is harder to assess. For those to whom family or institutional connections--or good luck--might open the doors to work requiring productive skills, the preparation for immediate employment probably would be effective, but for others (destined for make-work activities of some sort or an outright dole) such preparation could be provided as well or even better within the more thoroughly bureaucratized public school system. Higher education along this scenario line might take many forms, and even the pseudo-experience of the degraded EBCE visualized here might offer a better springboard for further education than would the public schools.

CUSP Scenario 4: Excessive Reprivatization

Scenario Brief

On this line, the "reprivatization" called for by several American liberals of the right is undertaken. Perhaps because of the vigor of the conflict needed to block and then roll back resistance by the threatened sections of the bureaucracy (and the resulting trend toward simplistic solutions by the victors), the released energies turned socially destructive after about a decade of relative exuberance. Or, the failure may have been inherent in any recourse to individually perceived interest in these close-coupled times. In any case, excessive raids upon the nation's common resources exacerbated environmental problems and the exhausion of fuel resevoirs, while a withering sense of social responsibility led to growing criminal disorders. Order was demanded, at the expense of much of the earlier release of human energy, and this line drifts toward an oligarchic USA within a North Atlantic garrison pattern.

EBCE Assumptions in This Setting

The early shift toward reprivatization along this scenario line would seem to generate conditions complementary to the development of a large scale EBCE program. The rate of technological change, though rapid in the 1970s has slacked off after 1980-- the time at which this program is expected to be in operation--due in part to problems of energy deficiency and environmental difficulties flowing from raids upon the nations commons.

By 1985, the society is beginning to close down, and,

in this environment, an EBCE would become a major tool in the transmission of the desired feelings of responsibility.

In reference to figure 2, all of the entries in the Scenario #5 column are "yes" except 7. Here it is felt that early in the period there would be the impulse and the capability to inhibit exploitation of the students by the employers but that late in scenario, exploitation would be viewed as an attractive control option by the oligarchy. The assumptions which, though scored "yes", appear to need explanation are numbers 2 and 8.

Assumption 2 would be "yes" for most of the scenario. Surely at 1985, there would be efforts to use the EBCE to assist unmotivated or underachieving students; however, it is felt that later on, as problems get sufficiently severe, even an EBCE program would find itself ignoring or not having time for those who won't help themselves. Assumption 8, by 1985, should be working, but earlier it will have have serious problems as a result of the high degree of technological change and job obsolescence. It is felt that in this scenario, an employer adjusted instructional program would lead to early specialization,with little regard to job longevity, on the part of many students, and that the lack of a generalized background would leave those people in a bad way when they become unemployed.

EBCE Goals Within This Scenario

At the 1985 "time hack" along this scenario line, the fundamental goals of EBCE (see Figure 3) seem to be fulfilled. The problem here is beginning to develop in goal number 2. There will be a trend away from providing a wide range

of experiences for the competent student, who will be enticed to stay at one work station; only the inept students will be passed along to different job experiences, in an attempt to find places for them.

CUSP Scenario 5: Sub-cultural Splintering Leading to an Authoritarian Garrison Pattern

Scenario Brief

This is an especially disastrous line that nevertheless must be seriously considered (especially for the next decade or so) because so many of its component trends are visible now. Within it, an excessive growth of pluralism in the near future leads toward social divisions that differ so deeply on values and bases for implicit communications that difference evolves into sub-cultural mistrust and hostility. A condition bordering on inchoate civil war precluded effective functioning of the economy. The government had been nearly immobilized earlier by a multi-party splintering that mirrored the sub-cultural splits in society. A sharp back-lash set in near 1980, and power was given to an oligarchy that promised (and delivered) order--but it could not revive a mangled economy nor replace wasted resources, and it chose to use the powers given it to hold tight and (insofar as possible) arrest change. Like scenario 4, the end result is a form of garrison state, but this one is to be found within an autarchic, inept world scene and is at once more closed and less competent.

EBCE Assumptions in This Setting

In Figure 2 scores for scenario number 5 indicate a smaller number of yes entries than for any other scenario with the exception of number 3. This condition is one in which progressive sub-cultural mistrust and hostility leads to increasing levels of internal violence and a steady movement toward cultural fragmentation. The near economic

and political paralysis contributed to the emergence in 1980 of an oligarchic authoritarian political order, the purpose of which was to restore civil order (by force, if necessary).

In such circumstances assumptions number 1,3,6 and 8 seem plausibly valid. Assumption 2 may be valid only if the world of work offers meaningful opportunities in a hostile environment. Assumption 4, that the employing sector will be interested in controlling and operating an alternative school system, is by no means assured--potentials for violence or sabotage, except in those happy conditions in which the employer groups existed wholly within the sub-cultural enclaves, might easily prove too great for the employing sector to accept. Assumption 5, the development of a reasonable cost/profit structure to encourage employer participation in an EBCE system might also prove questionable for the same reasons. Assumption 7 is judged "no" for two reasons. Early in the scenario authority would not be sufficient to assure that the EBCE system would not exploit students; later, during the period of oligarchic repression, it is entirely conceivable that the oligarchy would be happy to have students exploited as a means by which to assure social control of young people. In both assumptions 9 and 10 the judgment as to validity is open to speculation. For such reasons as inadequate security for members of the public educational system or insufficient additional funding, the employing group may fail to obtain the cooperation of the public educational establishment. For similar reasons, i.e., security problem, fear of production disruption, etc. employers may be less eager to

organize local consortia to control and organize an EBCE system.

The Goals of EBCE in This Setting

Consideration of the assumptions concerning EBCE within this context has suggested that the system might never even be approved, but, if it were, there still would be doubt as to its value. The pattern of disorder that characterizes the early period of this scenario is one in which students would seem more likely to object to enforced presence at a work site than to suffer a gratification lag because of late involvement in productive activity; later, when the reaction to pluralisticly inspired disorder sets in in the form of oligarchic authority, this first of the goals listed on Figure 3 may become somewhat more significant. Even in that later period, however, one doubts that dissident feelings would be erased in less than several decades, and in the meanwhile EBCE might well be perceived (and perhaps rightly so) more as slave labor than as a chance to get work. Correspondingly for Goal 4, this setting seems to offer an inhospitable environment; for work sites such that students were drawn from several antagonistic sub-cultures the frequency of acts of sabotage might well preclude the use of actual production equipment, and in the later, authoritarian period the ruling group is assumed to be generally unsympathetic to broad education for the masses.

The other two goals are listed as being questionable in the matrix display, since the authorities might choose or not choose to use the schools to gain such ends. Student choice of a career sector may be preempted by governmental decision,

and the individual who is prepared for several kinds of entry-level jobs may be frustrated by that experience if few alternatives, in fact, are offered him.

CUSP Scenario 6: Slow Net Growth, Conventional Values

Scenario Brief

This a sort of neutral line of development in which initiatives cancel each other and good luck generally compensates for bad. Underlying problems of world economic degeneration, resource (especially fuel) exhaustion, pollution, and revulsion against false promises finally "take charge". The end of the century sees a rapid degeneration toward inept authoritarianism.

EBCE Assumptions Within This Setting

This relatively neutral line of evolution may be one that is especially congenial to the institution and attractiveness of an EBCE system. Neither a ground swell of public value change nor a satiation of demand takes place (it is assumed), and problems of adequate production in the face of natural difficulties such as pollution, local fuel exhaustion, and degeneration of international trade are sufficiently difficult so that the generation of productive skills and attitudes is important. Change is less rapid than is assumed along some of the other scenario lines, so the penalties of early specialization are reduced. The years after 1995 are different however.

Reference to Figure 2 shows scores of "Yes" or question marks in all cases for the column pertaining to this scenario. Some of the question marks are important, however, since they bear upon the very existence of an EBCE system. In particular, the assumption that a "reasonable cost/profit structure for employers" could be arrived at is crucial to both the initiation and continuance of an EBCE, and along

this scenario line, especially for the years after about 1985, it may be that the funds available for education would be insufficient to supply any but the least expensive of educational alternatives. An EBCE probably could be made very inexpensive during recessional periods (which pertain in most periods for Scenario 6) by using only obsolete equipment, unused space, and left-over employee time, but to do so probably would vitiate the system. Contrary wise, if the EBCE system is to give actual work experiences and a real sense of involvement to its students, it probably would have to use currently productive equipment and personnel and admit students to the actual productive process; such engagements promise to be quite expensive in terms of diverted professional time, material wastage, and equipment breakage, and it is doubtful if any but a rather well to do economy would make more than a token investment along such lines.

For the later years along this line, as environmental and societal difficulties multiply, degeneration and/or totalitarian seizure seem likely, offering prospects that are too diverse to merit even the hypothetical treatment being given here. Who could even guess, for instance, whether the private sector would be significant enough to make employer opinions (Assumptions 4 and 10) interesting?

EBCE Goals Within This Scenario

The achievement of EBCE goals along this scenario line seems uncertain in each case, especially in later years. This is chiefly because there may be a major change in attitude vis-a-vis EBCE at about the 1985 "time hack" chosen

for this assessment. In general, all four goals seem more apt to be relevant and realized in the years before 1985 and less likely thereafter as resource limitations bite into either the number or quality (or both) of EBCE school facilities.

CUSP Scenario 7: Moderately Growthy, Liberal Democratic Success Scenario Brief

This is a line in which the values of liberal democracy are tried and found to be sufficient, with several significant adjustments in value but without the sweeping changes assumed for Scenario 1. Apparent signs of deep-running revolution of values in the late 1960s and early 1970s proved to be misleading. Economic recovery in the mid 1970s and social maturation built upon the legislative advances under Johnson and the way was opened for decades of gradual, substantial achievement. Rates of technological innovation slowed gradually under the pressures of resource exhaustion and pollution control. Consonant trends away from "potlatch" displays of conspicuous consumption became the American norm. Material evidence of success still was valued, but a fine thing that served for 20 years was more a source of pride than a sequence of new items. 2000 A. D. seemed to offer a stabilized American society with a slow-growing, satisfactory,actively technological economy. This might be thought of as the success story to which Scenarios 4 and 6 are unsuccessful alternatives, all proceeding along lines in which no revolutionary value change were either present or assumed to be needed.

EBCE Assumption in This Setting

Consideration of Figure 2 shows that most of the entries in the last column, pertaining to CUSP scenario 7, are scored "yes". That is to say, it appeared in this relatively brief, conceptual analysis that most of the listed assumptions concerning EBCE and the ambient factors affecting its

implementation might prove valid within this particular future setting. Supposing one's self to be assessing the relationships involved at about the year 1985 after an EBCE system had been working for about five years, the GNP would have grown substantially, and (considering the gradual slackening of conspicuous consumption in the society) discretionary funds available might be more than double those of 1970; even if (as seems likely at this point) the costs of EBCE would exceed those of conventional schooling, the resources would be at hand to pay the difference. Expansion of work opportunities in the service sector would have matched or exceeded losses to automation in other parts of the economy, and the need for entrants into the labor force who had formed reasonably sound estimates of their career preferences and had gained respect for a work environment still would be relatively high. It has been assumed for this scenario that problems of resource exhaustion (especially of fossil fuels) would have impeded economic growth since about 1980, but the concommittant pattern of world events would have permitted extensive importation of Middle Eastern oil, and environmental pressures would not seriously have impeded the transition from petroleum and natural gas to nuclear fission power and the increased utilization of coal reserves; the need for hard-working, dedicated workers seems sure to last out the 1980s and to hold up reasonably in the 1990s.

In such circumstances, it seems fair to give a "yes" score to assumptions number: 2,3,5,6 and 8. Assumptions 7,9 and 11 have been similarly scored, but for less structural reasons. Scenario 7 describes a law-governed society, with a background of success in the use of legislation to alleviate

social ills, so there seems no reason to doubt that it could "cage" the exploitive impulses of employer participants in EBCE. Assumptions 9 and 11 concerning the cooperation, respectively, of the educational and labor bureaucracies are scored "yes", but not very confidently. It has been assumed for this setting that growth of the power of those two institutions had been impeded somewhat, but the cogency of their self-defensive reactions still would be significant; the assumption that they go along with the development of an EBCE system that is actually competitive with the public high schools implies a corresponding assumption that the EBCE system finally selected would offer something to each of them. Their anxieties might be mild in this rather successful alternative future, however, and it might therefore be possible to gain their acquiescence with inoccuous concessions.

The remaining assumptions (namely number 1, 4, and 10) are more troublesome and there is one major reservation to be kept in mind when thinking of the "place" of the EBCE graduate of 1985 when the year 2000 comes around. Assumptions 4 and 10 are very closely related, each having to do with the extent to which employers may be positively interested in supporting an EBCE system, assuming that the monetary costs have been so accommodated that they do not lose money by such support. This scenario assumes a successful, problem-at-a-time solution of ecological imbalances that prove less frightful than was supposed by many in 1971, and that it turn suggests that the trend toward corporate social consciousness that seemed discernable in 1971 did in fact continue; if so, assumptions 4 and 10 probably deserve a "yes" score for this future.

Assumption 1, however, must remain questionable, especially in this future pattern of relatively rapid occupational change. It seems probable that there would be strong internal pressures within almost any EBCE system toward early specialization by their students; this could cause great individual vulnerability to change. In regard to Assumption 1 in particular, we assume that it was intended in a comparative sense, assuming not so much that public education fails to prepare students for career choice and attainment but that it does so less successfully than the concurrently operative EBCE system. Public education may well offer a more general preparatior and therefore, in the long run, a superior basis for continuingly rewarding work in a changing environment.

The over arching consideration mentioned above is this. In this scenario, it has been assumed that work for the sake of being busy and consumption for the sake of show become less and less prevalent in America, especially after about 1985. This gradual value shift could leave EBCE graduates out of step with their times if indeed their secondary school experience in such a system were to induce a strong respect for the work ethic. This may suggest a gradual abandonment of such a system after about 1985 even if one were vigorously supported and well attended earlier.

EBCE Goals in This Setting

Goal 1, the reduction of gratification lag by permitting early entry into at least a pseudo-work pattern for those who desire it, would seem likely to be relevant throughout the 30 year period of this scenario, perhaps waning somewhat in significance late in the period. Goals 2 and 3 both would be important, but as in the other successful scenario situations they may to some extent conflict; number 2 implies an offering of a representative sample of alternative career paths to each student, and in a rapidly variant technological field that may call for a quick look at many alternatives, but number 3 implies a deep penetration of whatever work-situations are nominated in order to gain a measure of actual competence in each. The later years of this scenario line well may be characterized by serious underemployment, and extensive exposure (Goal 2) may be deemed more important than the actual achievement of entry-level skills (Goal 3) as educational experience preparatory either to early employment or further education. Goal 4 would, correspondingly, be much more relevant during the earlier parts of this line of evolution out to perhaps 1985.

Summary

The foregoing sections break-out the ways in which goals and assumptions concening Employer-Based Career Education might "stack up" if such a system were to be actually instituted as a significant educational alternative and were to persist into each of the six alternative futures. Such dissection, however, helps very little unless the insights gained from it are recombined within a more unified conceptualization. Such syntheses will, one would expect, be performed better and to more practical ends by those actively engaged in the determination of policy vis-a-vis career education in general and the exploration of EBCE in particular, but this concept paper should attempt an initial, illustrative combination.

To start with, the analysis does strongly suggest that evolution toward the futures described in Scenarios 3 and 5 would tend to reduce the chance that an EBCE system of the sort hypothesized here would function effectively. In each of those future alternatives, the combination of resource availability and pervasive mood would mitigate against "selling" the system to the employers, and in Scenario 3 it also seems improbable that the educational and labor bureaucracies would go along. It might, therefore, be desirable for the proponents of EBCE to develop contingency plans for modification and adaptation of their

concepts and of the steps needed to bring them into practical action and to start a serious watch for the appearance of signs that the future may be moving into patterns that would prove inhospitable to the present concept of EBCE. The CUSP analysis to date indicates that movements toward either Scenario 3 or 5 may evidence themselves in the relatively near future, so such a combination of contingency planning and watching might bear fruit even before 1975. Indeed, if the foregoing analysis of goal achievement within the several alternative futures is sound, the worth of an EBCE system in Scenarios 3 and 5 would be sufficiently dubious so that supporters finding themselves lauched along such future lines might wish to reconsider their support; EBCE may be neither feasible nor attractive if achieved under such circumstances.

An EBCE system seems well adapted to both Scenarios 4 and 6, especially in their earlier periods (from, say, the effective initiation of an EBCE system serving 25% of the country's students in about 1980 on to 1985 or 1990). Funding probably would be available, the mood of society would favor amplification of respect for the work ethic, and rates of change after about 1980 at least would be low enough so that students selecting a given career on the basis of their EBCE experience in their teens would

have a reasonably good chance of being able to earn a living in that field for several years or even decades thereafter. As one approaches 2000 A.D. along either Scenario 4 or 6, however, times worsen, and an EBCE system might seem too expensive to do well; if poorly supported, it might become both frustrating to and exploitive of the students.

Along the two more attractive scenario lines, 1 and 7, the prognosis for EBCE is mixed. Along the latter, most assumptions seem likely to remain valid and most goals to be both feasible of realization and relevant, but rates of change in the earlier years may make the specialization implicit in EBCE a worse preparation for a life career than would be a more general kind of training, such as might be found in a well run public school. Also, technological unemployment threatens to be an especially serious problem along line 7, since automation probably would be well developed and the value shift away from the work ethic is assumed to be slow and (in this century) incomplete. The attitudes that are induced, if possible, through EBCE in 1985 may be ones that the society would have difficulty with in 1995. Correspondingly for Scenario 1, the EBCE emphasis upon work-a-day attitudes and skills would seem to be exactly

what might be needed during the period of transition to the new value pattern, to help in correcting inherited ecological and societal imbalances, but they run directly contrary to the assumed spirit of the new age; training in them in the early period will tend to create misfits as those students find themselves in a changed world fifteen years later. The fit between EBCE and Scenario 1 otherwise seems quite excellent, however. Indeed it might well be along that line that the public school system would so modify itself in the direction of involvement with living activities that differences between it and EBCE would become trivial. It does seem likely, however, that career education would come to be concerned more with the career of living well and in concert with the rest of the world than with employment for pay, and whole character of the role of the employer within EBCE might change accordingly.

Finally, then,this analysis has indicated that EBCE may serve well in four of the six illustrative future alternatives selected for consideration. Even in those "success" alternatives, however, the period after 1985 (when an EBCE might be expected to have been brought into full operation) seems likely to call for major reconsiderations and possible adjustments in the underlying concepts involved.